

**Indiana Course-Aligned Assessment  
Integrated Chemistry and Physics – Sample Items**

1. A plane flies with a velocity of 120 km/h south against the wind that is blowing with a velocity of 20 km/h north. What is the plane's speed relative to the ground?  
  
**A** 60 km/h south  
  
**B** 100 km/h south  
  
**C** 120 km/h south  
  
**D** 140 km/h south
  
2. A guitar string, as it is plucked, changes \_\_\_\_\_ energy into \_\_\_\_\_ energy.  
  
**A** mechanical, kinetic  
  
**B** gravitational potential, mechanical  
  
**C** gravitational potential, kinetic  
  
**D** mechanical, sound
  
3. Three unknown reactants are provided in lab. The task is to determine which chemicals react with one another. Provide two signs that would indicate a chemical reaction.

**Answer Key**

<b>Item</b>	<b>Answer</b>	<b>Alignment</b>
1	B	ICP.1.1
2	D	ICP.2.3
3	Color change, temperature change, precipitate formation, gas production	ICP.5.5